UNITED STATES PATENT AND TRADEMARK OFFICE

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EXAMINER
CARDENAS NAVIA, JAIME F

ART UNIT	PAPER NUMBER
3624	

NOTIFICATION DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *26 April 2010*.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-7,9-16,18-25 and 27-30* is/are pending in the application.

     4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7,9-16,18-25 and 27-30* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

     a)☐ All   b)☐ Some * c)☐ None of:

         1.☐ Certified copies of the priority documents have been received.

         2.☐ Certified copies of the priority documents have been received in Application No. _____.

         3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

     * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
     Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
     Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

Introduction

1.   This **NON-FINAL** office action is in response to communications received on April 26,

2010. Claims 1, 9, 10, 18, 19, and 27 have been amended. Claims 8, 17, and 26 have been

previously cancelled. No new claims have been added. Claims 1-7, 9-16, 18-25, and 27-30 are

currently pending.

Continued Examination Under 37 CFR 1.114

2.   A request for continued examination under 37 CFR 1.114, including the fee set forth in

37 CFR 1.17(e), was filed in this application after final rejection. Since this application is

eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e)

has been timely paid, the finality of the previous Office action has been withdrawn pursuant to

37 CFR 1.114. Applicant's submission filed on April 26, 2010 has been entered.

Response to Arguments

3.   Applicant's arguments have been fully considered by the Examiner. In particular,

Applicant argues that:

(A) Jameson and Christensen fail to teach or suggest a "supply chain planning problem

[that] further comprises computing at least one safety stock limit for an item;"

(B) the Office Action fails to properly establish a *prima facie* case of obviousness

according to the USPTO examination guidelines; and

(C) all dependent claims are allowable based on their dependence.

Regarding argument (A), it is moot in view of the new rejection presented below,

necessitated by amendment.

Regarding argument (B), Examiner respectfully disagrees. Jameson and Christensen

are the findings of fact. An indication of the level of ordinary skill in the art at the time of the

invention is provided implicitly by the prior art, as well as by Examiner's assertion on p. 6 of the

office action when describing Christensen's disclosure that "the advantage of such features is that

it enables one of ordinary skill in the art to process information at greater efficiencies", which is

backed by Christensen's disclosure on "High Performance Relational Database Management

System" (title).

With regards to establishing obviousness, the USPTO has issued examination guidelines

for determining obviousness under 35 U.S.C. 103 in view of the Supreme Court decision in KSR

International Co. v. Teleflex Inc. First an Examiner must complete the basic factual inquiries of

Graham v. John Deere Co. Next, seven rationales are provided in 72 Fed. Reg. 57526 (dated

October 10, 2007) to determine whether the claimed invention would have been obvious to one

of ordinary skill in the art: (A) combining prior art elements according to known methods to

yield predictable results; (B) simple substitution of one known element for another to obtain

predictable results; (C) use of known technique to improve similar devices (methods, or

products) in the same way; (D) applying a known technique to a known device (method, or

product) ready for improvement to yield predictable results; (E) "obvious to try"---choosing from

a finite number of identified, predictable solutions, with a reasonable expectation of success; (F)

known work in one field of endeavor may prompt variations of it for use in either the same field

or a different one based on design incentives or other market forces if the variations would have

been predictable to one of ordinary skill in the art; and (G) some teaching, suggestion, or

motivation in the prior art that would have led one of ordinary skill to modify the prior art

reference or to combine prior art reference teachings to arrive at the claimed invention. The

MPEP further clarifies that the prior art references must disclose or suggest all of the claimed

features. See MPEP 2143.

Examiner used rationale (A) for all obviousness rejections. All claimed elements were

taught by Jameson, Christensen, and/or Chopra, and would have yielded predictable results.

Examiner established this by stating that Christensen pertains to an analogous art (office action,

p. 5) and by citing Christensen's abstract that the invention can be used to increase the

performance of a database system. Additionally, fig. 3 of Christensen shows how the database

management system can be integrated with any client **28** computer. Thus, a proper *prima facie*

case for obviousness has been established. The rejections below have been updated to show this

as clearly as possible.

If Applicant has specific factual information to the contrary (that disputes Examiner's

findings), then Examiner respectfully asks that Applicant place these on the record.

Regarding argument (C), Examiner relies on the responses above.

Claim Rejections - 35 USC § 103

4.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person

having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5.   **Claims 1-7, 9-16, 18-25, and 27-30 are rejected** under 35 U.S.C. 103(a) as being

unpatentable over Jameson (U.S. Patent No. 6219649) in view of Tone et al. (US 5,596,493) and

Christensen (U.S. Patent Publication No. 20020049759).

Regarding claim 1, Jameson teaches a computer-implemented method for solving a

supply chain planning problem (see abstract; where a resource allocation optimization method is

disclosed. A resource allocation method is a supply chain planning problem.), comprising:

decompositioning said supply chain planning problem into a plurality of independent

sub-problems" (see Jameson column 7 lines 45-54; where the allocation problem is divided in to

simpler sub-problems. Resource allocation is a part of supply chain management.), said supply

chain planning problem comprising a plurality of planning problems, at least one of said plurality

of planning problems is a service level planning problem (col. 6, lines 46-61, meeting contractual

obligations is a service level planning problem);

"solving each of said plurality of said independent sub-problems by separate processes

operating in parallel" (see Jameson column 8 lines 8-25; where the sub-problems are solved to

determine the optimal allocation point. Each sub-problem is solved independently. The matrices

are stored on individual machines thus allowing the matrices to be stored across several

computers. A distributed database is defined as a database that be distributed to several

computers.).

Jameson fails to explicitly teach:

wherein said supply chain planning problem further comprises computing at least one

safety stock limit for an item; and

organizing the sub-problems in to partitions and imploring processors to execute the database partitions.

Tone teaches wherein said supply chain planning problem further comprises computing at least one safety stock limit for an item (col. 5, lines 43-67, optimum safety stock amount).

The inventions of Jameson and Tone pertain to supply chain planning. All the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, as Tone does not teach away from or contradict Jameson, but rather, teaches a function that was not addressed. The claimed invention is merely a combination of old and well-known elements, and the combination would have yielded predictable results to one of ordinary skill in the art at the time of the invention. Thus, it would have been obvious to combine the teachings, motivated by the teaching in Jameson of supply chain planning problems, including product demand (col. 21 and 22, Example 5, potential demands, resource allocations).

Additionally, Examiner would like to note that Applicant's specification mentions safety stock limit while discussing the prior art and does not mention safety stock limit while discussing the invention itself.

Christensen, in an analogous art, teaches "providing a plurality of distributed database partitions, each partition of said plurality of distributed database partitions associated with a respective independent data hunks of said plurality of planning problems" (see Christensen abstract and paragraph 46; where a plurality of database partitions are provided to for processing data hunks.),

"operating a plurality of processors, each processor of said plurality of processors coupled with a respective partition of said plurality of distributed database partitions" (see Christensen abstract and paragraph 46; where parallel processing is used to process the database partitions, fig. 3, PM Servers **10** are plurality of processors coupled with Data Hunks **24** and Distributed Databases **16**),

"forming a plurality of distributed sub-problem partitions, each of said distributed sub-problem partitions including a plurality of related items and associated with a respective independent sub-problem of said plurality of planning problems" (see Christensen abstract and paragraph 46; where the performance monitoring server partitions the database in to hunks. Hunks are related items. Hunks are the same thing as sub-problem partitions.),

"loading data into a plurality of distributed database partitions, said data associated with said plurality of related items, and each of said distributed database partitions associated with a respective one of each of said distributed sub-problem partitions" (see Christensen abstract and paragraph 46; where data is in the distributed database partition. The parallel processing of the distributed database partitions enables faster performance of processing working data.), and

"solving each of said plurality of said independent sub-problems by each processor of said plurality of processors coupled with said respective partition of said plurality of distributed database partitions, wherein each processor of said plurality of processors is operating in parallel" (fig. 3, PM Servers 10 are plurality of processors coupled with Data Hunks 24 and Distributed Databases 16, it is clear from the drawing that all the processors are operating in parallel)".

The inventions of Jameson and Christensen pertain to the analogous arts of database

information storage and retrieval. All the claimed elements were known in the prior art and one

skilled in the art could have combined the elements as claimed by known methods with no

change in their respective functions, as Christensen does not teach away from or contradict

Jameson or Tone, but rather, teaches a function that was not addressed. The claimed invention is

merely a combination of old and well-known elements, and the combination would have yielded

predictable results to one of ordinary skill in the art at the time of the invention, as fig. 3 of

Christensen shows how the database management system can be integrated with any client **28**

computer. Thus, it would have been obvious to combine the teachings, in order to increase the

performance of the system, which is a goal of Christensen (see abstract).

Regarding claim 2, Jameson discloses the method of Claim 1, further comprising:

forming a plurality of clusters, each of said clusters including said plurality of related

items (see column 8 lines 5-12; where optimal points are clustered and the clusters include the

scenario, where scenarios are a set of related events); and

forming said plurality of distributed sub-problem from said plurality of clusters (see

column 5 lines 35-40 and column 11 lines 3-15, column 7 lines 45-54, and column 8 lines 19-21;

where the system accounts for larger sub-problems. Sub-problems are defined as larger sub-

problems per the specification (see specification p. 9 line 16). Further, clusters are combined to

create larger clusters or larger sub-problems. The sub- problems consist of scenarios, where a

scenario is a set of related events).

Regarding claim 3, Jameson teaches the number of sub-problems is equal to the number

of clusters (see column 7 lines 58-67, column 8 lines 1-8, and column 19 lines 1-46), however

fails to explicitly teach "the number of distributed data is equal to the number of database partitions".

Christensen, in an analogous art, teaches "the number of distributed data is equal to the number of database partitions" (see paragraph 31; where the number of related items is equal to the number of database partitions set to be solved.). The advantage of such features is that it enables one of ordinary skill in the art to process information at greater efficiencies.

The inventions of Jameson and Christensen pertain to the analogous arts of database information storage and retrieval. All the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, as Christensen does not teach away from or contradict Jameson or Tone, but rather, teaches a function that was not addressed. The claimed invention is merely a combination of old and well-known elements, and the combination would have yielded predictable results to one of ordinary skill in the art at the time of the invention, as fig. 3 of Christensen shows how the database management system can be integrated with any client **28** computer. Thus, it would have been obvious to combine the teachings, in order to increase the performance of the system, which is a goal of Christensen (see abstract).

Regarding claim 4, Jameson discloses the method of claim 1, wherein said plurality of related items are related by one or more pre-define relationship rules (see column 10 lines 50-68, column 11 lines 1-29, and figures 6-8; where all of the elements of a scenario are processed under pre-defined rules).

Regarding claim 5, Jameson teaches the method of claim 2, wherein the act of forming said plurality of said clusters further comprises an act of storing said clusters (see column 18

lines 49-61 ; where cluster arguments and function calls are stored to increase performance of future processing by calling stored results).

Jameson fails to disclose the act of forming said plurality of said clusters further comprises an act of assigning a CLUSTER_ID to each item of said plurality of related items.

It is old and well-known in data management to assign an identification value to items stored in a database. The step of storing a cluster automatically gives it a CLUSTER_ID in a database row. The advantage of assigning an identification value to items stored in a database is that the item and its respective row can be more efficiently found in the database by simply querying the database for the assigned identification value.

All the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions. The claimed invention is merely a combination of old and well-known elements, and the combination would have yielded predictable results to one of ordinary skill in the art at the time of the invention. Thus, it would have been obvious to combine the teachings, in order to more efficiently find the clusters and their stored results.

Regarding claim 6, Jameson teaches the act of forming a plurality of distributed sub-problem partitions from said plurality of clusters (see column 7 lines 45-58 and column 24 lines 61-67; where clustering is used to divide resource allocation problems into simpler sub-problems. Using simpler sub-problems enhances the system to run faster and simpler. Furthermore, multiple processors can be used to solve each of the sub-problems.).

Although Jameson teaches creating sub-problems in order to facilitate computational time and complexity, Jameson fails to explicitly teach creating sub-problem objects of the same size.

It is old and well-known in the art to equally size objects for processing. The advantage of creating objects of the same size is that it increasing the computational speed and minimizing the computational complexity.

All the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions. The claimed invention is merely a combination of old and well-known elements, and the combination would have yielded predictable results to one of ordinary skill in the art at the time of the invention. Thus, it would have been obvious to combine the teachings, in order to increase the system speed and minimizing the computational complexity, which is a goal of Jameson (see column 7 lines 45-57 and column 24 lines 61-67).

Regarding claim 7, Jameson discloses the method of claim 1, wherein the act of solving each of said plurality of said distributed sub-problems further comprises an act of solving said plurality of independent sub-problems in parallel (see column 24 lines 61-67; where the use of multiple processors is desirably for the parallel execution of multiple instances of clusters).

Regarding claim 28, Jameson discloses wherein at least one of said plurality of planning problems comprise problems is a replenishment planning problem (col. 19, lines 1-45, determining capacity levels over time is a replenishment planning problem).

Claims 9-16, 18-25, 27, 29, and 30 recite a "computer-implemented system for solving a supply chain planning problem" and "software for solving a supply chain planning problem" taught by Jameson (see column 1 lines 13-14 and column 5 lines 35-40). Claims 10-16, 18-25, 27, 29, and 30 further recite limitations already addressed by the rejections of claims 1-7, 9, and 28; therefore the same rejection applies to these claims.

Conclusion

6.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jaime Cardenas-Navia whose telephone number is (571)270-1525. The examiner can normally be reached on Mon-Fri, 10:30AM - 7:00PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kambiz Abdi can be reached on (571) 272-6702. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/J. C./
Examiner, Art Unit 3624
May 13, 2010

/Romain Jeanty/

Primary Examiner, Art Unit 3624